



Program Specification

— (Postgraduate)

Program Name: Master in Mathematics
Program Code (as per Saudi university ranking): MATH (054101)
Qualification Level: Master degree (level 7)
Department: Mathematics
College: Faculty of Science
Institution: University of Tabuk
Program Specification: New <input type="checkbox"/> updated* <input checked="" type="checkbox"/>
Last Review Date: 12/7/2020

*Attach the previous version of the Program Specification.



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A. Program Identification and General Information:

1. Program's Main Location:

University of Tabuk, Faculty of Science, Main Campus, Building 17

2. Branches Offering the Program (if any):

No branches

3. System of Study:

Coursework & Thesis

Coursework

4. Mode of Study:

On Campus

Distance Education

Other.....(specify)

5. Partnerships with other parties (if any) and the nature of each:

- Partnership Arrangement: **NA**

- Type of Partnership:

- Duration of Partnership:

6. Professions/jobs for which students are qualified:

Academic Researcher (235906)

Teaching Assistant (23100101)

Lecturer (23100102)

7. Relevant occupational/ Professional sectors:

Education, Research, teaching and statistical sectors, Financial institutions such as banks and telecommunications companies.

8. Major Tracks/Pathways (if any):

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
1. Master in Mathematics	43	Public or private education sector, lecturer or tutor in the department or in one of the departments of mathematics, research centers.

9. Exit Points/Awarded Degree (if any):

Exit points/Awarded degree	Credit hours
1. NA	

10. Total credit hours: (43)



B. Mission, Goals, and Program Learning Outcomes

1. Program Mission:

Prepare qualified scientific cadres with advanced mathematical Knowledge and skills through an academic environment that encourages scientific research and contributes to community service.

2. Program Goals:

1. To prepare qualified, distinguished and mathematical Knowledge and skills scientific cadres, able to communicate effectively in their work environment using appropriate techniques, orally and in writing.
2. To promote distinguished scientific research, capabilities of critical thinking and participation in research programs in various fields of mathematics.
3. To contribute in community service, social responsibility, follow professional ethics, and religious values.
4. To develop a supportive academic environment that meets the beneficiary's expectations.

3. Program Learning Outcomes:*

Knowledge and Understanding:

The students will be able to:

- | | |
|----|---|
| K1 | Demonstrate various ideas and advanced concepts in different branches of mathematics. |
| K2 | Describe different methods of mathematical problems and keep up with the recent advancements in this field. |
| K3 | Enhance advanced knowledge and understanding of research methodology. |

Skills:

The students will be able to:

- | | |
|----|---|
| S1 | Apply advanced mathematical concepts in conducting scientific research in various mathematical fields. |
| S2 | Analyze and solve complicated mathematical problems using advanced numerical methods. |
| S3 | Use of creative critical thinking and advanced analytical reasoning in solving complex mathematical problems. |
| S4 | Communicate ideas concisely, accurately and effectively using written and oral presentations. |

Values, Autonomy, and Responsibility:

The students will be able to:

- | | |
|----|---|
| V1 | Perform work professionally and ethically and manage specialized tasks with autonomy. |
| V2 | Demonstrate responsibility, leadership and self-learning during work individually or in group research. |





C. Curriculum:

1. Curriculum Structure:

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Course	Required	7	19	44%
	Elective	7	21	49%
Graduation Project (if any)		1	3	7%
Thesis (if any)		None	None	--
Field Experience(if any)		None	None	--
Others (.....)		None	None	--
Total		15	43	100%

* Add a separated table for each track (if any).

2.1 Program Courses:

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	MATH630	Abstract Algebra	Required	None	3	Program
	MATH636	General Topology I	Required	None	3	Program
	MATH659	Ordinary Differential Equations	Required	None	3	Program
	MATH661	Real Analysis	Required	None	3	Program
Level 2	MATH653	Functional Analysis I	Required	None	3	Program
	MATH660	Numerical Analysis	Required	None	3	Program
	MATHxx1	Elective Course	Elective	None	3	Program
	MATHxx2	Elective Course	Elective	None	3	Program
Level 3	MATH690	Discussion	Required	None	1	Program
	MATHxx3	Elective Course	Elective	None	3	Program
	MATHxx4	Elective Course	Elective	None	3	Program
	MATHxx5	Elective Course	Elective	None	3	Program
Level 4	MATH695	Research Project	Required	None	3	Program
	MATHxx6	Elective Course	Elective	None	3	Program
	MATHxx7	Elective Course	Elective	None	3	Program





Elective Program Courses:

Course Code	Course Title	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
MATH631	Linear Algebra	None	3	Program
MATH640	Topology and Analysis in R	None	3	Program
MATH641	Functional Analysis II	MATH653	3	Program
MATH642	Measure Theory I	None	3	Program
MATH644	Galua's Theory	None	3	Program
MATH647	Graph Theory	None	3	Program
MATH649	General Topology II	MATH636	3	Program
MATH654	Measure Theory II	MATH642	3	Program
MATH658	Perturbation Theory	None	3	Program
MATH665	Fluid Mechanics	None	3	Program
MATH666	Approximation Theory	None	3	Program
MATH667	Applications on Partial Differential Equations	None	3	Program
MATH668	Partial Differential Equations	None	3	Program
MATH669	Mathematical Programing	None	3	Program
MATH670	Numerical Solution of ODE's	None	3	Program

3. Course Specifications:

Insert hyperlink for all course specifications using NCAA template (T-104)

Course Specifications Link:

https://drive.google.com/drive/folders/19gXwuO_HaqUz85HIKK0L-TxbA9jixYyo





4. Program learning Outcomes Mapping Matrix:

Align the program learning outcomes with program courses, according to the following desired levels of performance
(I = Introduced P = Practiced M = Mastered).

Course code	Course Name	Program Learning Outcomes								
		Knowledge and understanding			Skills				Values, Autonomy, and Responsibility	
		K1	K2	K3	S1	S2	S3	S4	V1	V2
MATH0636	General Topology I	I	I	I	I		I		I	I
MATH0659	Ordinary Differential Equations	I	I	I	I	I		I	I	I
MATH0630	Abstract Algebra	I	I	I	I	I	I			I
MATH0661	Real Analysis	P	P	P	P	P	P			P
MATH0653	Functional Analysis I	P	P	P	P	P	P	P	P	P
MATH0660	Numerical Analysis	P	P	P	P	P	P			P
MATH0642	Measure Theory I	P	P	P	P	P	P		P	
MATH0690	Discussion	M		M	M	M	M	M	M	M
MATH0695	Research Project	M	M	M	M	M	M	M	M	M
MATH0644	Galua's Theory	M		M	M	M	M		M	M
MATH0667	Applications on PDEs	M	M	M	M		M		M	
MATH0631	Linear Algebra	M	M	M		M	M			M
MATH0640	Topology and Analysis in R	M	M	M	M		M	M	M	M
MATH0658	Perturbation Theory	M	M		M	M				M
MATH0647	Graph Theory	M		M	M	M	M		M	M
MATH0665	Fluid Mechanics	M	M		M	M		M		M
MATH0666	Approximation Theory	M	M	M	M	M				M
MATH0669	Mathematical Programing	M	M		M	M				M
MATH0641	Functional Analysis II	M	M	M	M	M		M	M	M
MATH0670	Numerical Solution of ODE's	M	M		M	M	M	M		M
MATH0654	Measure Theory II	M	M	M	M	M	M		M	M
MATH0668	Partial Differential Equations	M	M		M	M				M
MATH0649	General Topology II	M	M	M	M		M	M	M	M

* Add a separated table for each track (if any).



5. Teaching and learning strategies applied to achieve program learning outcomes:

Describe teaching and learning strategies, to achieve the program learning outcomes in all areas.

All the outlines of teaching and assessment strategies set out in the program and course specifications must be followed by teaching faculty members. The teaching and learning focuses on the needs, abilities, interests and learning styles of the students. The design of curriculum and courses' contents are in support to serve this situation. The teaching methods include:

- Lectures
- Group works
- Presentations
- Discussion
- Blackboard (online learning system)
- Videos and Audio Recordings.
- Seminar
- Research.
- Using mathematical software packages in the computer laboratory.

Each course learning outcome needs special methods for teaching and learning as well as special methods for assessment according to the nature of the learning outcomes. In addition, as the learning outcomes of courses are derived from those of the program, therefore, teaching and learning strategies are varied according to the nature of the course and according to the learning outcomes of the program. As stated in the course's specifications, the intended learning outcomes of the course determine the type of course and the required strategies for teaching, learning and assessment. The evaluation of the teaching strategies and assessment methods is documented in the course reports.

6. Assessment Methods for program learning outcomes:

Describe assessment methods (Direct and Indirect) that can be used to measure the achievement of program learning outcomes in all areas.

The program should devise a plan for assessing Program Learning Outcomes (all learning outcomes should be assessed at least once in the program's cycle).

To achievement of program learning outcomes in the program, assessment methods (Direct and Indirect) that can be used to measure the program learning outcomes. The table below shows the Direct and Indirect assessment methods.

The direct Method of assessing the program learning outcomes:

The direct method is based on the students' course work. Every program learning outcome is assessed using capstone courses.

1. Amid-term exam.
2. Presentation.
3. Final exam.



4. Solving homework and assignments.
5. Final year research project.
6. Panel discussions and oral test

The Indirect Method of assessing the program learning outcomes:

The Math Program uses the stakeholders surveys to assess all the different aspects of the program including the learning outcomes.

1. Questionnaires which may include
 1. Employees' Satisfaction.
 2. Student evaluation courses.
 3. Community service.
 4. Alumni Satisfaction
 5. Faculty members.
 6. Student experience.
 7. Scientific supervision.
 8. Program evaluation.
 9. Student Academic Counselling.
 10. Employers' Satisfaction.
- 2- External interviews.
- 3 - Note the behavior of the student and his cooperation with hispeers through focus groups.
4. Performance indicators.
5. Reference comparisons.
6. Independent evaluation.
7. Environmental analysis.

All these surveys are conducted in the time frame that is specified for each one. The results of these surveys are used for implementation of improvement plans.

D. Thesis and Its Requirements (if any):

1. Registration of the thesis:

(Requirements/conditions and procedures for registration of the thesis as well as controls, responsibilities and procedures of scientific guidance)

- The research project is required course for all students in the second year (level 3).
- The program publishes the titles of the available projects at the beginning of every academic year for graduate students.
- Student select the topic according to their area of interest .
- The student can submit his own research title, and the appropriate supervisor will then be selected according to the field of study.



2. Scientific Supervision:

(The regulations of the selection of the scientific supervisor and his/her responsibilities, as well as the procedures/mechanisms of the scientific supervision and follow-up)

- Supervisors are assigned by the Head of the Department to the students.
- Students have to attend the supervisor class which is of 3 credit hours per week to discuss the hurdles in ongoing the research.
- There is a monthly follow-up from is written by the supervisor for the student's progress in research, the monthly report is submitted to the head of department.
- Graduation project discussions are held at the end of the academic year in the presence of the supervisor and two reviewers.

3.Thesis Defense/Examination:

(The regulations for selection of the defense/examination committee and the requirements to proceed for thesis defense, the procedures for defense and approval of the thesis, and criteria for evaluation of the thesis)

- Students have to present his/her project work of the research committee.
 - Two reviewers related to the research topic are selected to discuss the student's research.
 - Students have to defend his work in presence of the reviewers and the supervisor of research.
 - The examiner will award the marks depending on the students overall presentation of their work.
- Students have to submit 3 copies of their final thesis to the university. (1 for supervisor,1 for the Department and 1 for the University library.)

H. Student Admission and Support:

1. Student Admission Requirements:

- Student have to get a GPA of 3.75 or above in their graduation to appear for the entrance of the Post-Graduation exam.
- Students have to qualify in the entrance of Post-Graduation exam.
- Students must complete English language course (TOFEL) with good score.
- For Transfer of students from one university to another university, they have to produce a genuine reason with supporting documents.





2. Guidance and Orientation Programs for New Students:

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

- The program provides orientation for new students in which they are informed about their new responsibilities, the pertinent codes of conduct and the expectations and regulations regarding their behavior.
- All rules and policies that regulate grievance, complaints and disciplinary are implemented by UT and it is published online on its website.

Guidance and Orientation Programs for New Students

<https://www.ut.edu.sa/ar/Deanship/student-affairs/Pages/default.aspx>

3. Student Counseling Services:

(Academic, professional, psychological and social)

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level)

- The Mathematics Department handbook gives details and all requirements of the program.
- List of academic guidance and office hours per week are declared on each faculty member's office.
- The program shares with its students any important information related to the academic process and educational process through various technical tools such as the blackboard system, and the use of official emails.
- University support services include careers, financial advice, housing, counseling etc.
- Excellent library facilities.
- University, college, department handbooks provide information about the course structure and University regulations etc
- In level 3 and 4, male and female supervisor academic counselors are allotted for the students from the concerned department to resolve the student's queries regarding to the research project.

All Counseling manuals are available in the following link:

https://drive.google.com/drive/folders/17v83rBsSfxeVHKz_Nc9F3N0-U5SKykFg?usp=sharing

Academic Advising Guide link:

https://drive.google.com/drive/folders/17v83rBsSfxeVHKz_Nc9F3N0-U5SKykFg

In addition, the Guidance and Counseling Unit in the deanship of student affairs published some guidance on this regard in the following link: [Pages- Guidance and Counseling Unit. \(ut.edu.sa\)](#)





4. Special Support:

(Low achievers, disabled, and talented students).

The university of Tabuk provides care and support for the low achievers and the disabled students. Also, the college's campus provides all the requirements of disabled students (elevators, car parking, and special paths). The Mathematics department program pays due attention to students of special needs. Their special needs are taken into consideration for the access of the building and specially during the exams. As for the underachieving students, they are identified and provided with remedial programs to help them overcome the difficulties hindering their progress into the program. These students are distributed among the academic advisors at the department and are given due interest. They are met on a regular basis by their academic advisors. Cooperative learning or other forms of teamwork are an active method to meet the needs of low achievers. They are asked for extra support in office hours. For the gifted and talented students, the university has established programs in order to identify and to develop the abilities of these students. This is achieved through holding several extracurricular activities to attract and to encourage the talented students to develop their abilities and gifts. The Mathematics department participates the talented students in internal and external activities.

E. Faculty and Administrative Staff:

1. Needed Teaching and Administrative Staff:

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professor	1	2		1	2	3
Associate Professor	0	2		0	2	2
Assistant Professor	-	-		0	0	0
Lecturer	-	-	-	-	-	-
Teaching Assistant	-	-	-	-	-	-
Technicians and Laboratory Assistant	-	2		1	1	2
Administrative and Supportive Staff	1	-	-	1	0	1
Others (specify)	-	-	-	-	-	-



F. Learning Resources, Facilities, and Equipment:

1. Learning Resources:

Learning resources required by the Program (textbooks, references, and e-learning resources and web-based resources, etc.)

- University of Tabuk is linked through Saudi Digital Library. This library has a very strong database of text books, reference books, almost all international reputed journals.
- Faculty members as well as the students can surf SDL through the university system edugate.edu.sa.
- University Central Library that contains mathematical sciences textbooks and references
- Blackboard

2. Facilities and Equipment:

(Library, laboratories, classrooms, etc.)

There is a university central library that includes all textbooks and references required by teaching staff. Laboratories are well equipped with appropriate computers and software for practical training of students according to the course requirements. Classrooms are adequately equipped with educational electronics with high technology media with interactive smart boards. The Classrooms and associated equipment are acceptable and provide a good environment to students and faculty. The campus has a medical clinic, Cafeteria, Gym, and Car parking. Also, there are buses transportation between different buildings in the campus.

3. Procedures to ensure a healthy and safe learning environment:

(According to the nature of the program)

- The university is committed to providing a safe and healthy campus environment among its highest priorities are the health and safety of all faculty, staff, and students.
- Smoking is prohibited in any University facility and on any University grounds.
- Fire prevention guidelines are listed in all places emergency exit doors in all parts with sufficient Signboards in all places.
- Safety and safety instructions are announced at the laboratories and the places where students gather.
- The college is designed to have good ventilation.
- Alarm bells and fire extinguishers are available
- There are also signs and notices on how to use next to each one.



G. Program Quality Assurance:

1. Program Quality Assurance System:

Provide a link to quality assurance manual.

Program Quality Assurance System Link:

<https://drive.google.com/file/d/1ojOKVVfmSKQ1bBgifwUOiyWm7gkYEsR8/view?usp=sharing>

2. Program Quality Monitoring Procedures:

Monitoring of courses by the department follows the university of Tabuk as well as the NCAAA guidance. Where at the end of each semester, the faculty members submit a course file and course reports on the NCAAA templates. Course reports should be prepared at the end of the semester in which the course was delivered. The minimum requirements for annual course monitoring should include summary and analysis of final marks of students with comments on grade profiles, course learning outcomes, effectiveness of planning teaching and assessment strategies for course CLOs, course evaluation by students and other evaluators, and an action plan for improvement that may include arising issues or proposals for change. The methods used to determine the standard benchmark after which analysis of the courses offered is completed. The self-evaluation surveys used can be determined using the distribution surveys and evidence that can be used to compare the achievement of goals at different periods. The report completed is reviewed by the Deanship or Development and Quality.

3. Procedures to Monitor Quality of Courses Taught by other Departments:

Not applicable.

4. Procedures Used to Ensure the Consistency between within the main campus:

(including male and female sections).

- Course descriptions, teaching methods, and evaluation are similar between males and females sections.
- Libraries and Laboratories must be provided to both the male and female sections.
- Examination pattern and questions must be unique to both the sections.

5. Assessment Plan for Program Learning Outcomes (PLOs):





PLOs	Assessments	
	First Assessment Cycle	Second Assessment Cycle (After implementing the improvement plan)
	First year	Second year
All PLOs	Direct methods + Indirect methods using: Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	Direct methods + Indirect methods using: Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.

PLOs	Direct Assessment	Indirect Assessment	Target Benchmark	Responsibility	Time of assessment
Knowledge					
K1 Demonstrate various ideas and advanced concepts in different branches of mathematics	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the Surveys: Statistics and information unit	Direct: First and Second year 1443H Indirect: Every year
K2 Describe different methods of mathematical problems and keep up with the recent advancements in this field.	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the	Direct: First and Second year 1443H Indirect: Every year





			Survey, Student Experience Survey.		Surveys: Statistics and information unit	
K3	Demonstrate advanced knowledge and understanding of research methodology.	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the Surveys: Statistics and information unit	Direct: First and Second year 1443H Indirect: Every year
Skills						
S1	Apply advanced mathematical concepts in conducting scientific research in various mathematical fields.	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the Surveys: Statistics and information unit	Direct: First and Second year 1443H Indirect: Every year
S2	Analyze and solve complicated mathematical problems using advanced numerical methods.	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the	Direct: First and Second year 1443H Indirect: Every year





			Survey, Student Experience Survey.		Surveys: Statistics and information unit	
S3	Use of creative critical thinking and advanced analytical reasoning in solving complex mathematical problems.	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the Surveys: Statistics and information unit	Direct: First and Second year 1443H Indirect: Every year
S4	Communicate ideas concisely, accurately and effectively using written and oral presentations.	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the Surveys: Statistics and information unit	Direct: First and Second year 1443H Indirect: Every year
Values						
V1	Perform work professionally and ethically and manage specialized tasks with autonomy	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the	Direct: First and Second year 1443H Indirect: Every year





			Survey, Student Experience Survey.		Surveys: Statistics and information unit	
V2	Demonstrate responsibility, leadership and self-learning during work individually or in group research.	All Master Courses	Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	80 % of students score more than 80%	For Courses: Lecturers For the Research project: Supervisor + Evaluation team For the Surveys: Statistics and information unit	Direct: First and Second year 1443H Indirect: Every year

6. Program Evaluation Matrix:

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Method	Evaluation Time
Effectiveness of teaching and assessment methods	HOD, faculty, students, alumni, employers	Exam results , CR and CES Post-term meeting HOD-students meeting Interviewers Peer review PLOs assessment, APR HOD-students meeting Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	End of each term, Annually, Mid of the program
Learning outcomes	HOD, faculty, students, alumni, employers	CR, CES Post-term meeting course	End of each term, Annually, Mid of the





		coordinators-students meeting Program evaluation survey, Alumni Survey, Employer's survey, Program Learning Outcomes Assessment Survey, Student Experience Survey.	program
Effectiveness of leadership	HOD, Faculty members, Admin staff	Staff performance evaluation forms. HOD, Faculty members, evaluation surveys.	Annually
Overall quality of the program	Students, graduates, Faculty members, HOD, Admin staff, Employers, Advisory committee, Independent reviewers	CR, APR, Operational plan report KPIs report, PLOs report Surveys report, Discussion Advisory committee meetings	Annually
Partnerships	HOD, Faculty members, Students, Advisory committee	CR, APR Operational plan Stakeholders surveys Advisory committee meetings	Annually

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, services, partnerships, etc.)

Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others.)

Evaluation Methods (e.g., Surveys, interviews, visits, etc.)

Evaluation Time (e.g., beginning of semesters, end of the academic year, etc.)

7. Program KPIs:*

The period to achieve the target (2) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-PG-1	Percentage of achieved indicators for program operational plan objectives.	70%	Report	End of academic year
2	KPI-PG-2	Students' Evaluation of quality of learning experience in the program.	4.5	Survey	End of academic year
3	KPI-PG-3	Students' overall rating of the quality of their courses.	4.5	Survey	End of semester





No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
4	KPI-PG-4	Students' assessment of the quality of scientific supervision.	4	Survey	End of academic year
5	KPI-PG-5	Average time for students graduates.	2 Years	Report	End of academic year
6	KPI-PG-6	Rate of Students dropping out of the program.	10%	Report	End of academic year
7	KPI-PG-7	Percentage of graduates from the program who within a year of graduation were employed.	60%	Report	End of academic year
8	KPI-PG-8	Employers' evaluation of the program graduates proficiency.	4.25	Survey	End of academic year
9	KPI-PG-9	Students satisfaction with the offered services.	4.25	Survey	End of academic year
10	KPI-PG-10	Ratio of students to teaching staff.	(1:1)	Report	End of academic year
11	KPI-PG-11	Percentage of teaching staff distribution.	Professor: 10% Associate Professor: 25% Assistant Professor: 65%	Report	End of academic year
12	KPI-PG-12	Proportion of teaching staff leaving the program.	0%	Report	End of academic year
13	KPI-PG-13	Satisfaction of beneficiaries with the learning resources.	4.5	Survey	End academic year
14	KPI-PG-14	Satisfaction of beneficiaries with the research facilities and equipment.	4.5	Survey	End of academic year
15	KPI-PG-15	Percentage of publications of faculty members.	65%	Report	End of academic year
16	KPI-PG-16	Rate of published research per faculty member.	5:1	Report	End academic year
17	KPI-PG-17	Citations rate in refereed journals per faculty member.	11:1	Report	End of academic year
18	KPI-PG-18	Percentage for students' publications.	60%	Report	End of academic year
19	KPI-PG-19	Number of patents, innovative products, and awards of excellence.	2	Report	End of academic year

*including KPIs required by NCAAA





H. Specification Approval Data:

Council / Committee	Approval by the Department Council
Reference No.	DEPARTMENT COUNCIL NO (18)
Date	21/10/1443 H

